REMARKS/ARGUMENTS

Summary of Examiner Interview

Applicants thank Examiners Anderson and Marschel for the courtesies extended to the undersigned attorney, Robert W. Esmond, and Carl Wheeler during the personal interview conducted on July 28, 2006. During the course of the Examiner interview, the Office Action dated May 1, 2006, was discussed, and Examiner Anderson indicated that it would be withdrawn and replaced with a new Office Action setting forth an enablement concern. Applicants discussed the enablement of the invention as well as the claim amendments as substantially set forth herein. Examiner Anderson acknowledged the reasonableness of Applicants' position and indicated that he would further consider the matter upon receipt of this written reply to the new Office Action.

The Pending Claims

Claims 8-14, 16, and 38-43 are currently pending. Reconsideration of the pending claims, as amended, is hereby requested in view of these remarks/arguments.

Discussion of Claim Amendments Relative to Issued Claims

Claim 8 has been amended to replace the term "pharmaceutically" with the term "physiologically." Claim 8 has been amended to recite that the "at least one compound is administered with" the pharmaceutically acceptable carrier. In addition, claim 8 has been amended to recite the phrase "wherein said at least one compound exhibits an overall effect of rotating the plane of polarized light in the (-) direction" for additional clarity. These claim amendments are supported by the specification at, for example, column 7, lines 29-66. In addition, claim 11 has been amended to recite a blood level of "200-1000 ng/dl" as supported by the specification at, for example, column 7, Table 4.

Claim 16 is a new claim depending from claim 8, which further recites that the cancer is a "carcinoid tumor of neuroendocrine tissue located in the lung, pancreas, or gastrointestinal tract." Support for new claim 16 is found in the specification at, for example, column 2, lines 20-25.

New claims 38-43 depend from claim 8 and mirror claim 10 except that the new claims individually recite ovarian, thyroid, testicular pituitary, prostate, and breast cancer,

respectively. Support for new claims 38-43 is found in the specification at, for example, column 7, lines 29-34.

The amended claims and the newly added claims, therefore, narrow the scope of the issued claims, and no new matter has been added by way of these amendments.

Discussion of Claim Amendments Relative to Immediately Previous Claim Set

The claim set presented herein includes additional amendments to the amended claim set presented in Applicants' "Reply to Office Action" dated February 2, 2006.

In particular, claims 1-7, 15, 17-20, and 22-37 are canceled. Claim 8 has been further amended to recite that "the at least one compound is administered with" the pharmaceutically acceptable carrier and that "the at least one compound exhibits an overall effect" of rotating the plane of polarized light in the (-)direction. New claims 38-43 depend from claim 8 and mirror claim 10 except that the new claims individually recite ovarian, thyroid, testicular pituitary, prostate, and breast cancer, respectively. Support for new claims 38-43 is found in the specification at, for example, column 7, lines 29-34.

The Office Action

Claims 1-4, 6-20, and 22-37 are rejected under 35 U.S.C. § 112 as allegedly lacking enablement for the treatment of all cancers with gossypol, gossypolone, or (-)-gossypol.

Discussion of Rejection Under 35 U.S.C. § 112

As claims 1-4, 6, 7, 15, and 17-37 have been canceled, Applicants discuss the rejection with respect to remaining claims 8-14, 16, and 38-43, which recite methods of treating cancer with (-)-gossypol. According to the Office Action, the area of cancer treatment is unpredictable, and one having skill in the art would be required to perform undue experimentation in order to practice the invention. For support, the Office Action cites Van Poznak (*Breast Cancer Research and Treatment*, 66: 239-248 (2001)) as illustrative of the state of the art.

Applicants respectfully submit that the Van Poznak article is mischaracterized in the Office Action. The subjects in the study had very advanced stage metastatic cancer. The subjects had already received at least two prior chemotherapy regimens, which included doxorubicin and paclitaxel, and had a life expectancy of greater than 12 weeks. The purpose of the Van Poznak study was to determine if gossypol had an affect on cell cycle biomarkers

BR2729, CA15-3, Rb protein, and cyclin D. While comments were made in the article regarding efficacy of treatment in the patients, the purpose of the article and its observations were to determine the cellular effects of gossypol as stated in the declaration of Dr. Marcus Reidenberg, submitted herewith. Attention is drawn to the small sample size and the optional nature of sample collection (i.e., few patients submitted to biopsies), and the fact that only cancer patients that did not respond to established forms of cancer treatment (i.e., doxorubicin *and* paclitaxel) were included in the study. While in this study it was found that gossypol was not effective as a monotherapy in a very small number of "heavily pretreated women with metastatic breast cancer refractory to doxorubicin and taxane," the authors concluded that gossypol is clinically safe and was shown to alter cell cycle regulatory proteins. Further, the authors, which include Dr. Marcus Reidenberg, who is a co-inventor of the present application and a principal investigator for the licensee of the present application, concluded that gossypol may be a lead compound for a new class of anti-neoplastics. Therefore, the Van Poznak article supports the use of gossypol for the treatment of cancer rather than contributing to the notion that cancer treatment with gossypol is unpredictable.

In addition, Applicants note that the specification is fully enabling for one having ordinary skill in the art to practice the invention. The specification provides dosage and route of administration guidance. In addition, attention is drawn to the declaration of Jon Theodore Holmlund, M.D., submitted herewith, which provides evidence of the predictability of treating cancer with (-)-gossypol. As stated in Dr. Holmlund's declaration, apoptosis suppressors Bcl-2, Bcl-xl, Bcl-w, Mcl-1, and A-1 are elevated in a wide variety of cancers. Small organic molecules that bind the apoptosis suppressors are expected to be useful for the treatment of a variety of cancer types. (-)-Gossypol binds to Bcl-2, Bcl-xl, and Mcl-1 with high affinity. As (-)-gossypol binds to three apoptosis suppressing members of the Bcl-2 family, it is reasonably expected to be useful for the treatment of a variety of cancers. Further, studies conducted to determine the effectiveness of (-)-gossypol in the treatment of chronic lymphocytic leukemia, prostate cancer, and follicular lymphoma have found that (-)-gossypol is effective in treating each of the respective cancers (see Exhibits C and D of Dr. Holmlund's declaration). These studies indicate that (-)-gossypol is an effective treatment of cancer in multiple forms. The treatment of cancer with (-)-gossypol is predictable because it suppresses apoptosis suppressors that are elevated in a wide range of cancers. Given the guidance in the specification of the present application, one having ordinary skill in the art

OIPE IAP4 OCT 20 2006 PATENT & TRADEMARK OFFICE

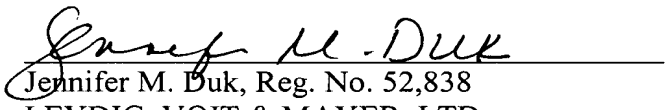
would be able to practice the invention of treating cancer with (-)-gossypol without undue experimentation and would reasonably believe that the administration of (-)-gossypol would be effective in the treatment of a wide variety of cancers.

Therefore, the present application is enabling for the treatment of cancer with (-)-gossypol, and Applicants respectfully request that the enablement rejection be withdrawn.

Conclusion

The application is considered in good and proper form for allowance, and the Examiner is respectfully requested to pass this application to issue. If, in the opinion of the Examiner, a telephone conference would expedite the prosecution of the subject application, the Examiner is invited to call the undersigned attorney.

Respectfully submitted,



Jennifer M. Duk, Reg. No. 52,838
LEYDIG, VOIT & MAYER, LTD.
Two Prudential Plaza, Suite 4900
180 North Stetson Avenue
Chicago, Illinois 60601-6780
(312) 616-5600 (telephone)
(312) 616-5700 (facsimile)

Date: October 20, 2006